



US006073947A

**United States Patent** [19]

Gottschalk et al.

[11] Patent Number: **6,073,947**[45] Date of Patent: **Jun. 13, 2000**[54] **SUBSTANTIALLY WELD FREE FRAME  
BRACKET ASSEMBLY**[75] Inventors: **Michael J. Gottschalk, Grandville;  
Michael J. Keeler, Blacklick, both of  
Ohio**[73] Assignee: **The Boler Company, Itasca, Ill.**[21] Appl. No.: **09/103,551**[22] Filed: **Jun. 24, 1998**

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**Related U.S. Application Data**

[63] Continuation-in-part of application No. 09/052,131, Mar. 31, 1998, Pat. No. 6,007,078.

[51] Int. Cl.<sup>7</sup> ..... **B60G 3/12**[52] U.S. Cl. .... **280/124.128; 280/124.157;  
280/683**[58] Field of Search ..... **280/86.5, 124.153,  
280/124.128, 124.157, 124.163, 678, 683**[56] **References Cited****U.S. PATENT DOCUMENTS**

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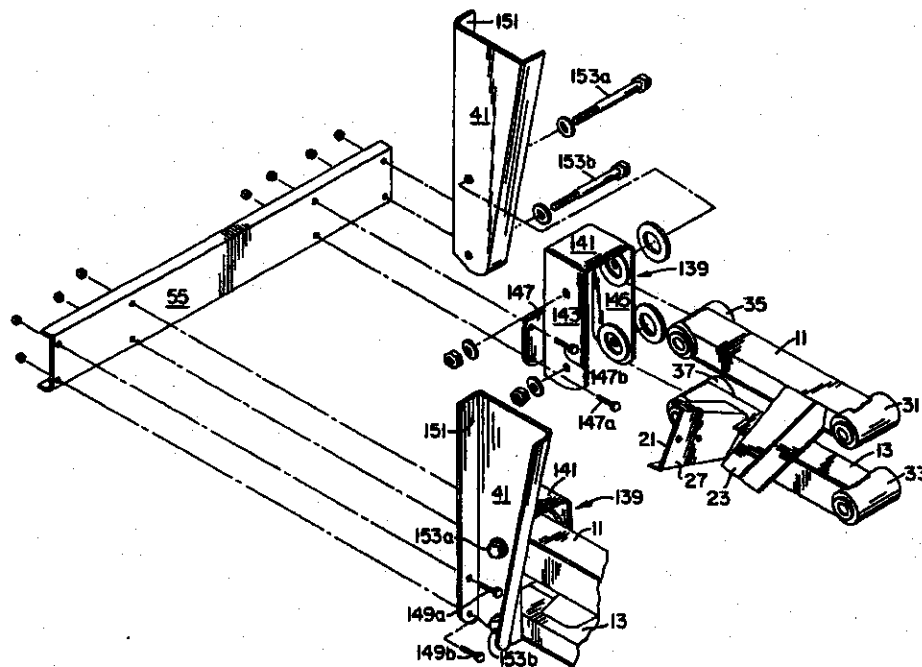
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Primary Examiner—Paul N. Dickson

Attorney, Agent, or Firm—Hall, Priddy, Myers &amp; Vande Sande

[57] **ABSTRACT**

A substantially weld free frame bracket for connecting a suspension to the frame rail of a heavy duty vehicle which includes a plate member and an attached cradle having pivotally bolted to it one or more beams, the pivotal connecting bolts serving as the connection to the plate member. A cross-member connects opposing brackets on either side of the vehicle.

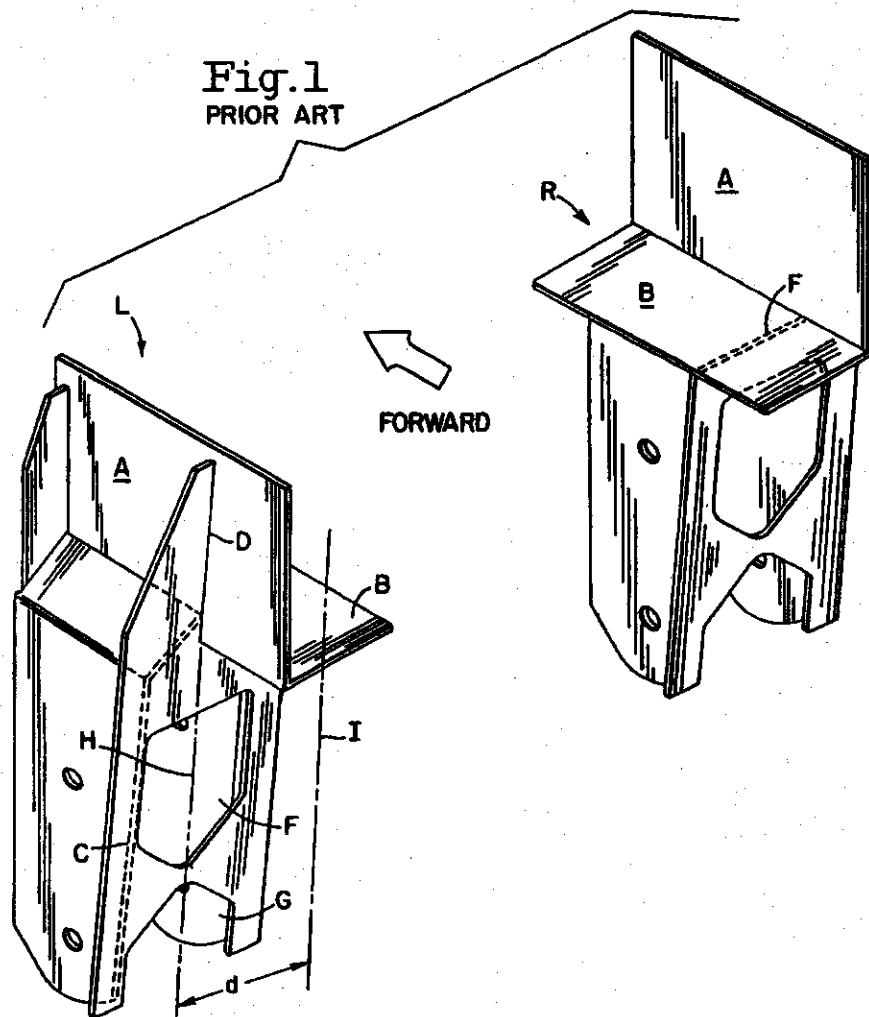
**29 Claims, 8 Drawing Sheets****Exhibit "A"**

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Fig. 2A

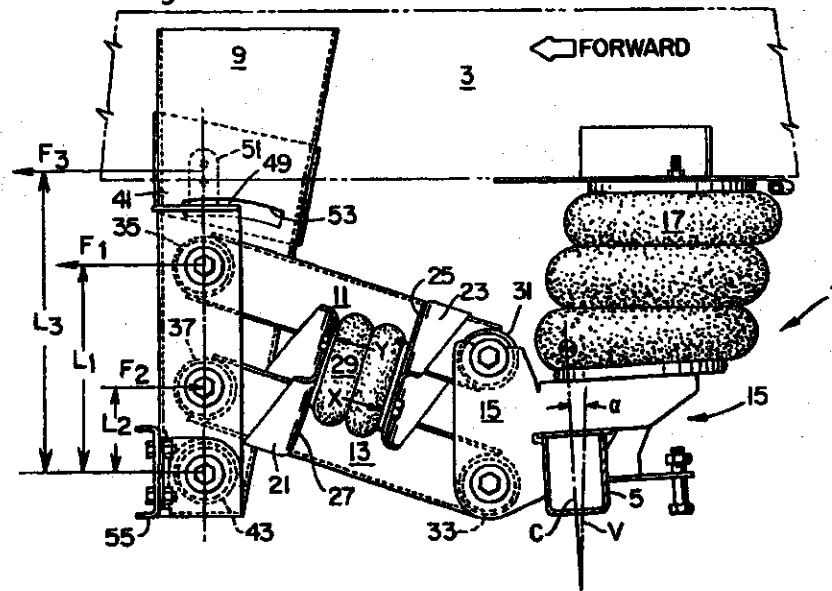
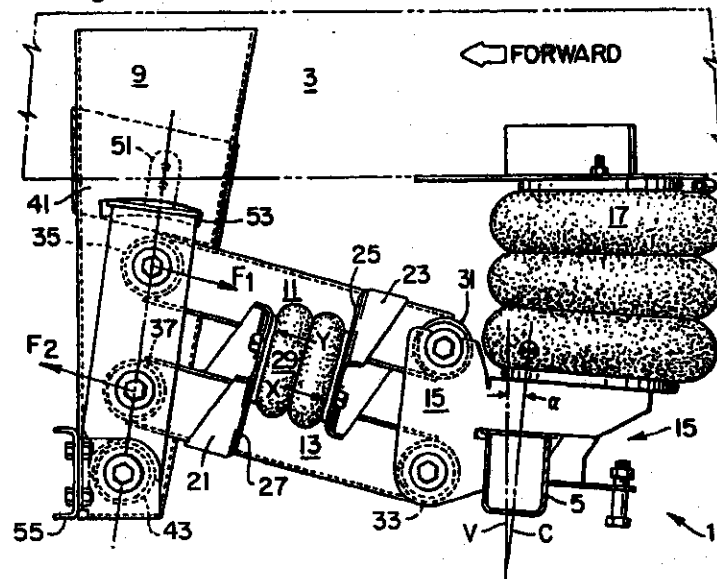


Fig.2B

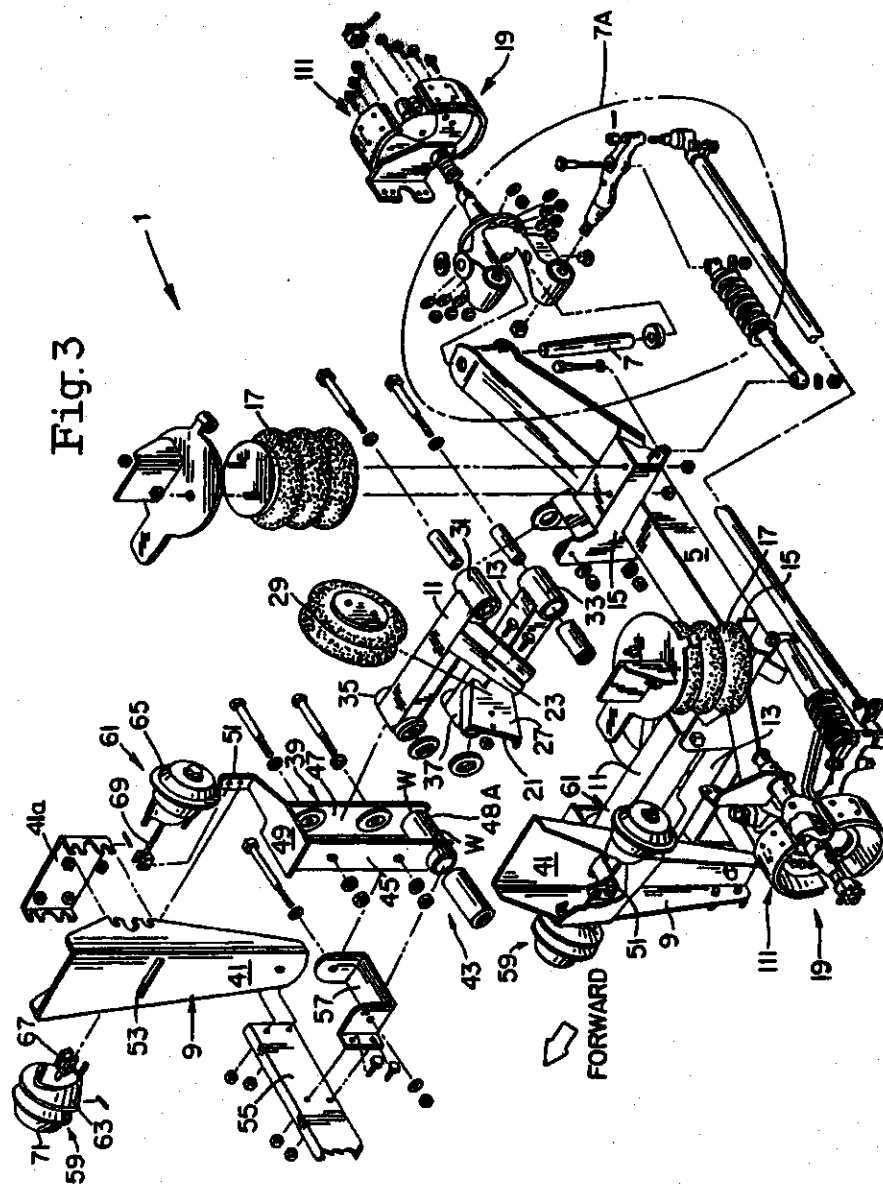


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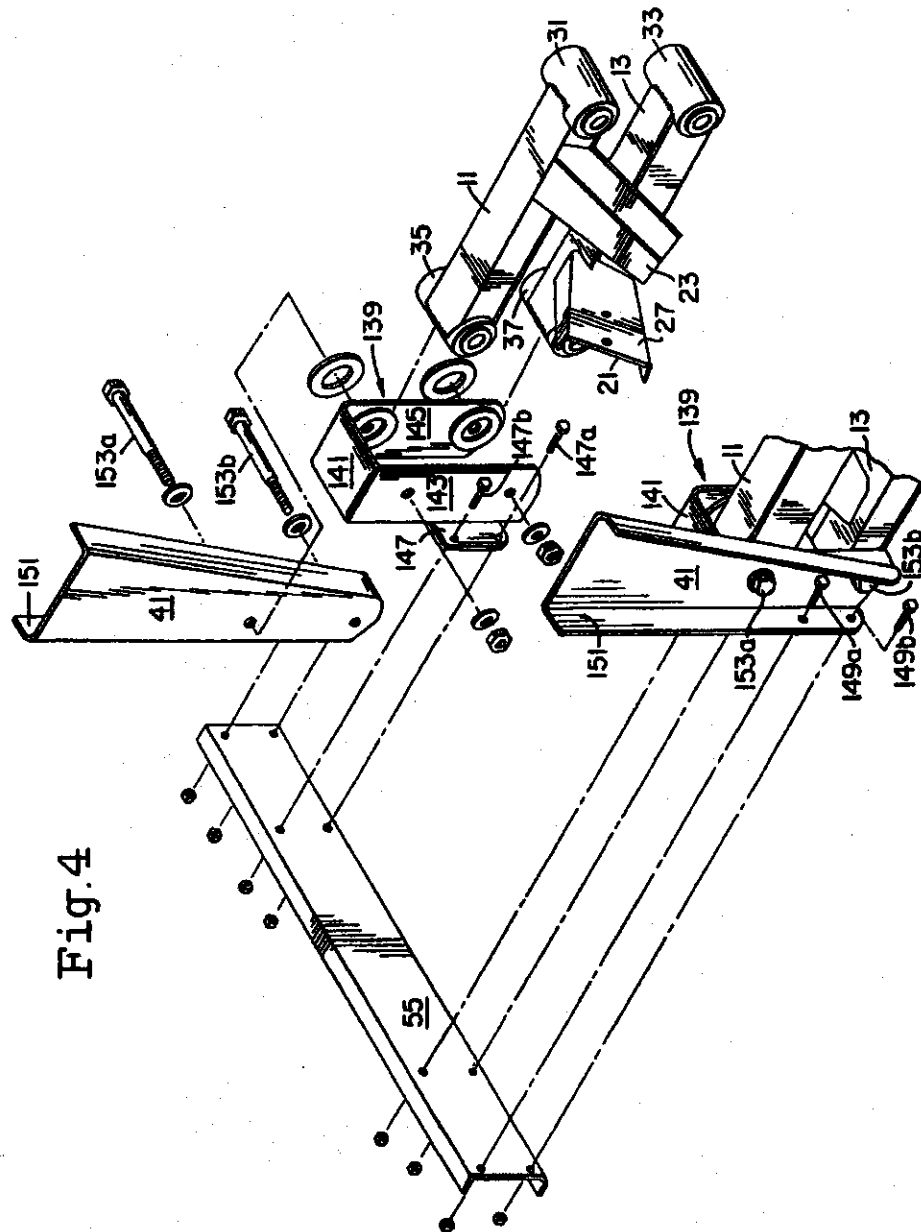


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Fig.5A

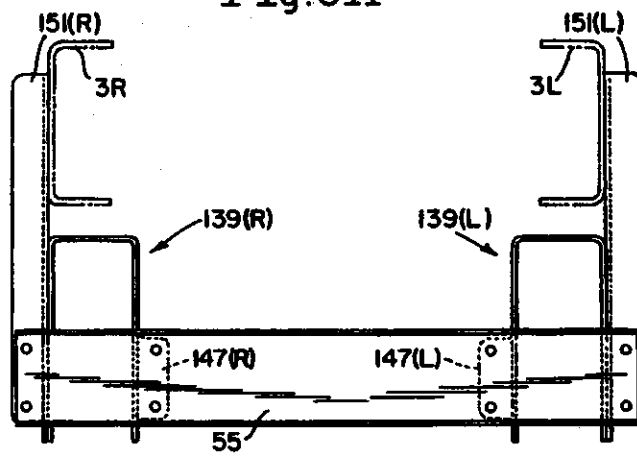


Fig.5B

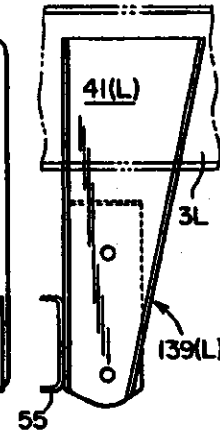


Fig.6A

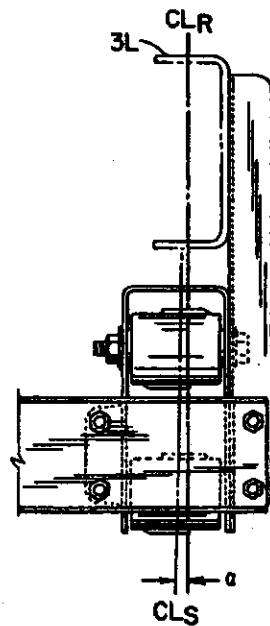
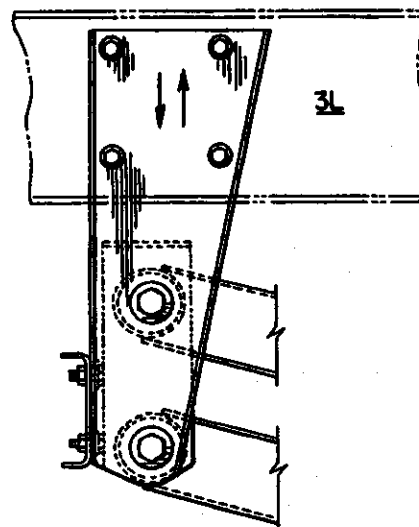


Fig.6B

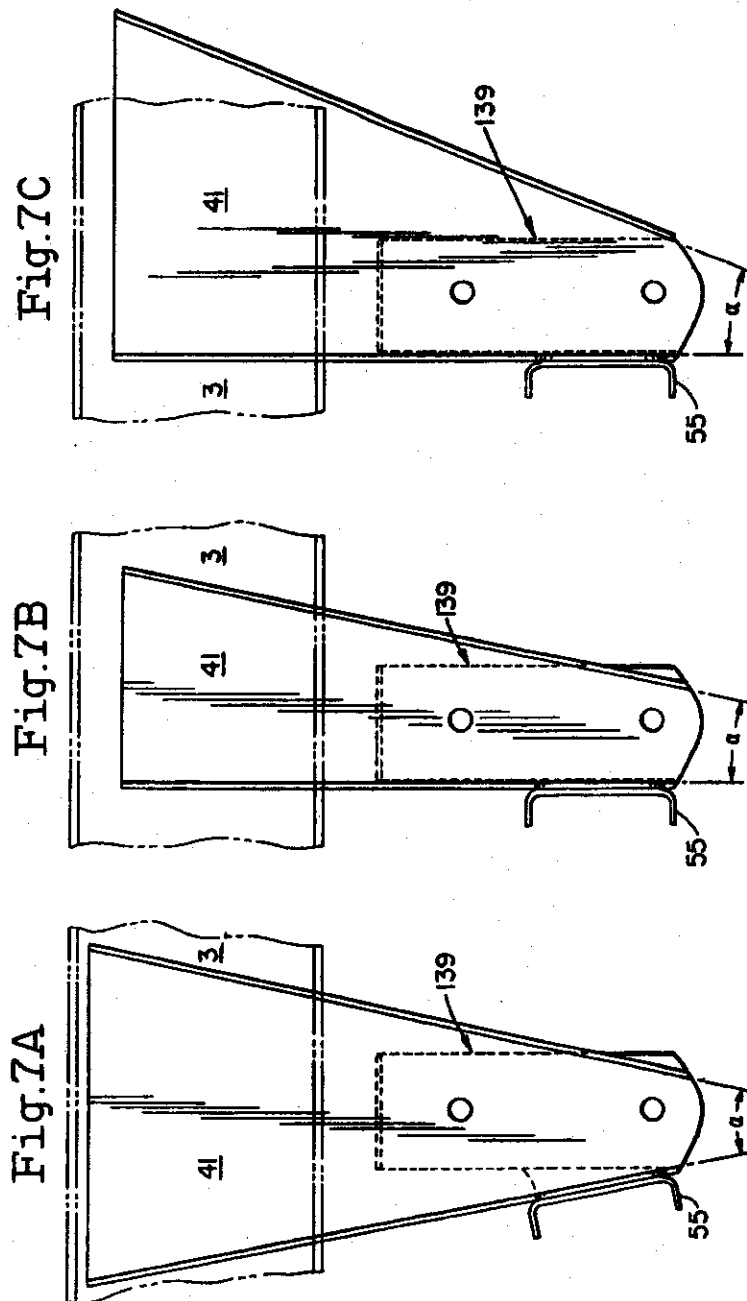


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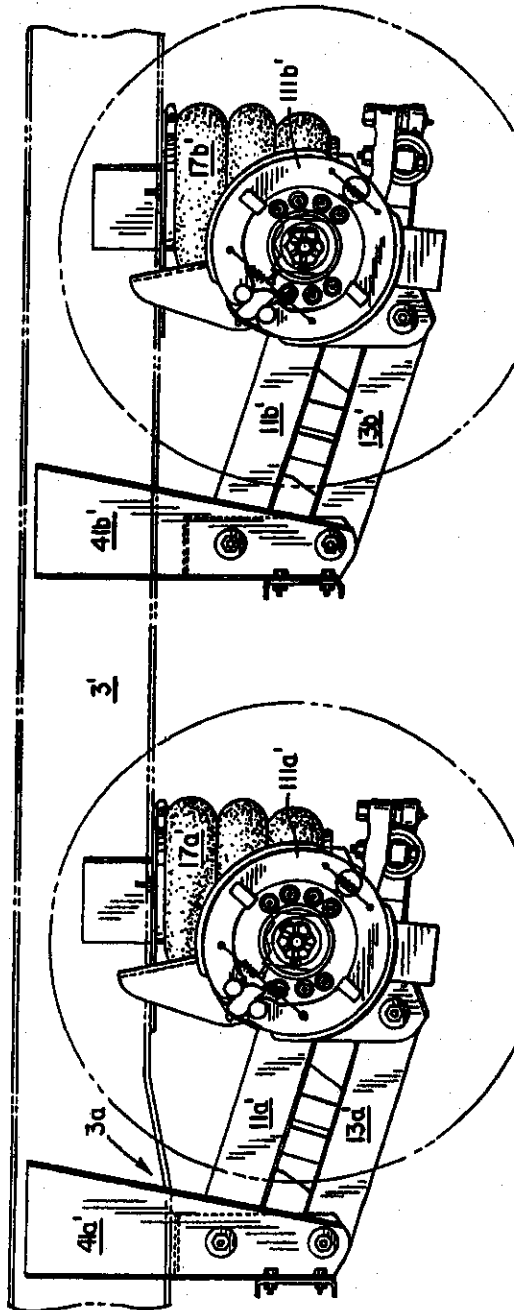
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Fig. 8



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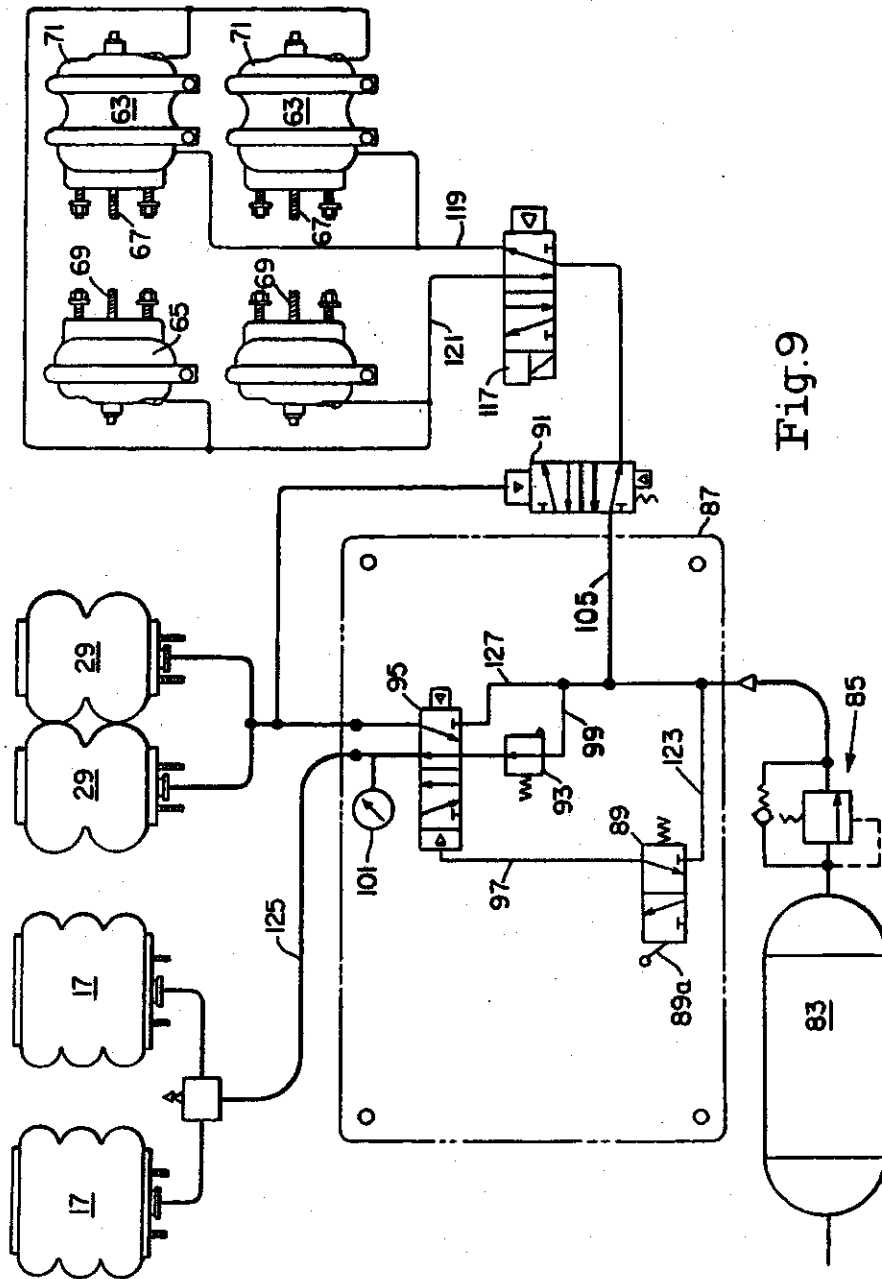


Fig. 9